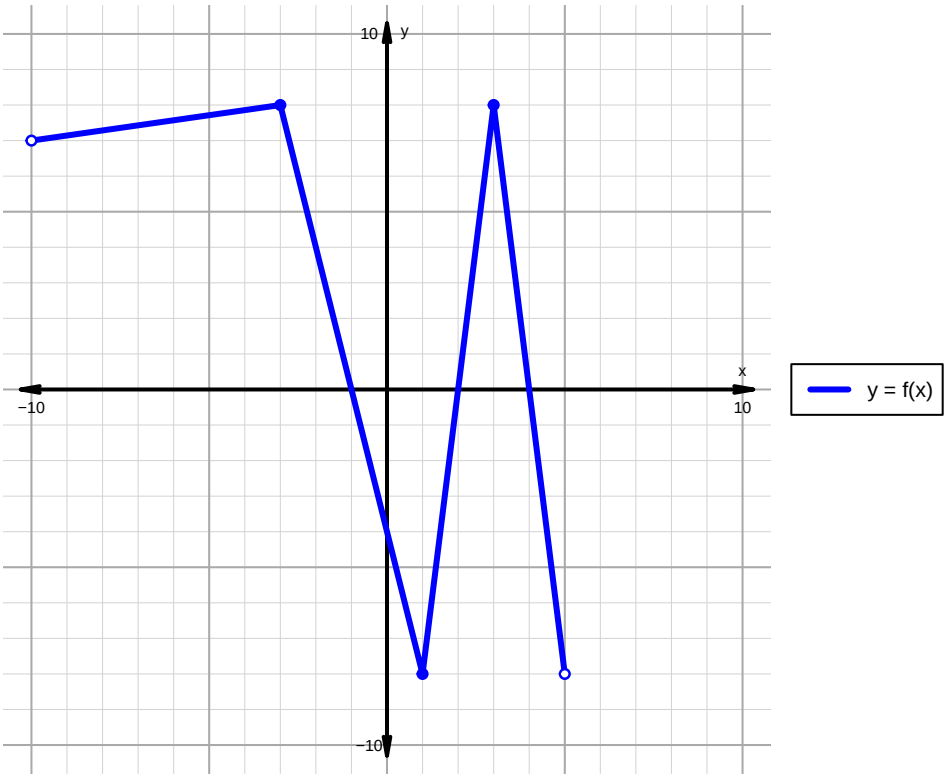
Name: Date:

Intervals, Transformations, and Slope Solution (version 119)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-10,-1)\cup(2,4)$
Negative	$(-1,2)\cup(4,5)$
Increasing	$(-10,-3)\cup(1,3)$
Decreasing	$(-3,1)\cup(3,5)$
Domain	$(-10,5)$
Range	$(-8,8)$

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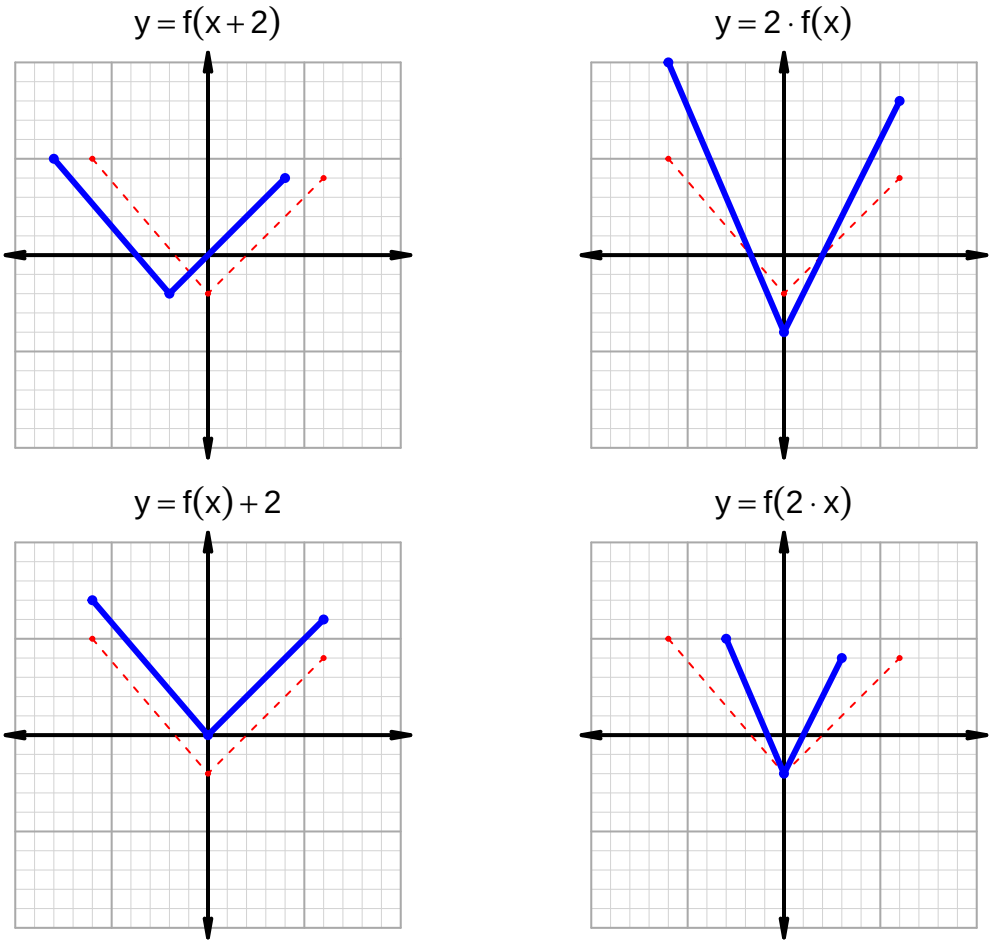
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 17$ and $x_2 = 71$. Express your answer as a reduced fraction.

x	$g(x)$
17	69
69	71
71	93
93	17

$\frac{f(71)-f(17)}{71-17} = \frac{93-69}{71-17} = \frac{24}{54}$

The greatest common factor of 24 and 54 is 6. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{4}{9}$$